

Method and techniques for investigating a phenomenon In The honey bee know as Colony collapse disorder

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Colony collapse disorder (or **CCD**) is a phenomenon in which worker bees from a beehive or Western honey bee colony abruptly disappear, authorities attribute the problem to many problems and a lot of guess work.

The Symptoms run from mild to wild, **Wikipedia has best to describe in detail**

- Complete absence of adult bees in colonies, with little or no build-up of dead bees in or around the colonies.
- Presence of [capped brood](#) in colonies. Bees normally will not abandon a hive until the capped brood have all hatched.
- Presence of food stores, both [honey](#) and [bee pollen](#):
 - i. which are not immediately robbed by other bees
- ii. which when attacked by [hive pests](#) such as [wax moth](#) and [small hive beetle](#), the attack is noticeably delayed.

Precursor symptoms that may arise before the final colony collapse are:

- Insufficient [workforce](#) to maintain the brood that is present
- Workforce seems to be made up of young [adult](#) bees
- The [Queen](#) is present
- The colony members are reluctant to consume provided feed, such as sugar syrup and [protein supplement](#).

From looking at the symptoms I speculate the honey has been damaged to a point were it is useless for the adult bees and that it may be a antibody produced by the queen are a antibiotic introduced by the bee keeper to a level that would be considered unsafe by the adult bees.

By the use of a Gas-liquid chromatography we can determine the compounds in a mixture are substances. Knowing that a gc vaporizes a compound to find other compounds. All so knowing that honey can be vaporized we can provide a set of baseline's to establish what is in our honey.

To set these base lines we would take 4 hives take samples , after a few weeks we would remove the queen from 2 of the hives and reintroduce 2 queens from hives that have collapse, if the theory holds we then would see changes in the 2 hives that has been reintroduce with the queens from the collapsed hives. The new test should show minor chemical changes within the honey. And there forth given us a clue to what chemical changes are happening and by hopes a way to stop it.

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Ref.

<http://www.pbs.org/wnet/nature/episodes/silence-of-the-bees/video-full-episode/251/>

[http://solutionsforyourlife.ufl.edu/hot_topics/agriculture/colony Collapse Disorder.html](http://solutionsforyourlife.ufl.edu/hot_topics/agriculture/colonyCollapseDisorder.html)

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